

We claim:

1. A graphics computer programming language for the efficient description and rendition of a set of three-dimensional objects and real-time interactions among the three-dimensional objects
5 in a three dimensional space for performing an application within a computing device or a general networked computer environment, comprising:

a user level command script consisting of a number of consecutive individual command lines wherein each of the command lines further comprises a mnemonical name of a specific command corresponding to the command line followed by an ordered list of arguments for the specific command;

10 a language level program code having a one-to-one correspondence with the user level command script wherein the language level program code comprises the same number of consecutive individual program lines with each of the program lines further consisting of an operation code for the mnemonical name of the specific command followed by a correspondingly ordered list of arguments for the specific command;

15 a language interpreter whereby the number of consecutive individual program lines of the language level program code get parsed into a corresponding set of instructions for display; and

20 a display engine whereby the set of instructions for display produced by the language interpreter get rendered into the set of three-dimensional objects and the real-time interactions among them in a three dimensional space for graphics presentation or storage in the computing device or the general networked computer environment.

25 2. The graphics computer programming language as described in claim 1 wherein the set of operation codes of the language level program code is functionally partitioned into a number of sections to improve the performance of the function of parsing for the language interpreter.

30 3. The graphics computer programming language as described in claim 2 wherein each of the number of sections further comprises a specific definition and a range of operation codes consecutively assigned thereof.

4. The graphics computer programming language as described in claim 3 wherein one of the number of sections is section zero (0) being defined as a null section, corresponding to no action, having a singular numerical operation code of zero (0).

5 5. The graphics computer programming language as described in claim 3 wherein one of the number of sections is section one (1) being defined as a controls section, comprising a set of control functions, having a range of numerical operation codes from 1 to 100.

6. The graphics computer programming language as described in claim 3 wherein one of the
10 number of sections is section two (2) being defined as a data access section, comprising a set of functions for data access, having a range of numerical operation codes from 200 to 299.

15 7. The graphics computer programming language as described in claim 3 wherein one of the number of sections is section three (3) being defined as a math operations section, comprising a set of functions for mathematical operations, having a range of numerical operation codes from 400 to 499.

20 8. The graphics computer programming language as described in claim 3 wherein one of the number of sections is section four (4) being defined as a transforms/actions section, comprising a set of functions causing transformations or actions of a number of selected members of the set of three-dimensional objects, having a range of numerical operation codes from 500 and up.

25 9. The graphics computer programming language as described in claim 1 wherein the computing device is a game console or a desk top computer.

10. The graphics computer programming language as described in claim 1 wherein the general networked computer environment includes, but not limited to, the Internet.

30 11. The graphics computer programming language as described in claim 10 wherein the graphics computer programming language is downloadable for viewing by a client user with a web browser includes, but not limited to, *Internet Explorer* or *Netscape communicator*.

12. A graphics computer programming language for real-time presentation, storage or transport of a set of three-dimensional objects having a compact size in a three dimensional space within a computing device or a general networked computer environment, comprising:

5 a user level command script consisting of a number of consecutive individual command lines wherein each of the command lines further comprises a mnemonical name of a specific command corresponding to the command line followed by an ordered list of arguments for the specific command;

10 a language level program code having a one-to-one correspondence with the user level command script wherein the language level program code comprises the same number of consecutive individual program lines with each of the program lines further consisting of an operation code for the mnemonical name of the specific command followed by a correspondingly ordered list of arguments for the specific command whereby the operation code and the correspondingly ordered list of arguments are symbolically defined to be pure numerical numbers, pure alphabets or alphanumerics to make the corresponding presentation, storage or transport of the objects compact in size.

15 a language interpreter whereby the number of consecutive individual program lines of the language level program code get parsed into a corresponding set of instructions for display; and

20 a display engine whereby the set of instructions for display produced by the language interpreter get rendered into the set of three-dimensional objects and the real-time interactions among them in a three dimensional space for graphics representation or storage in the computing device or the general networked computer environment.

25 13. The graphics computer programming language for real-time presentation, storage or transport of a set of three-dimensional objects in claim 12 wherein the language level program code is further compressed into a final file with a variety of industry standard algorithms and coding schemes including, but not limited to, ZIP Code or Hoffman Code.

30 14. The graphics computer programming language for real-time presentation, storage or transport of a set of three-dimensional objects in claim 12 wherein the language interpreter is

further provided with a functional component of file decompression such that the compressed final file is first decompressed into the corresponding language level program code before it gets parsed into the corresponding set of instructions by the language interpreter for display.

5 15. The graphics computer programming language as described in claim 12 wherein the set of operation codes of the language level program code is functionally partitioned into a number of sections to improve the performance of the function of parsing for the language interpreter.

10 16. The graphics computer programming language as described in claim 15 wherein each of the number of sections further comprises a specific definition and a range of operation codes consecutively assigned thereof.

15 17. The graphics computer programming language as described in claim 16 wherein one of the number of sections is section zero (0) being defined as a null section, corresponding to no action, having a singular numerical operation code of zero (0).

20 18. The graphics computer programming language as described in claim 16 wherein one of the number of sections is section one (1) being defined as a controls section, comprising a set of control functions, having a range of numerical operation codes from 1 to 100.

19. The graphics computer programming language as described in claim 16 wherein one of the number of sections is section two (2) being defined as a data access section, comprising a set of functions for data access, having a range of numerical operation codes from 200 to 299.

25 20. The graphics computer programming language as described in claim 16 wherein one of the number of sections is section three (3) being defined as a math operations section, comprising a set of functions for mathematical operations, having a range of numerical operation codes from 400 to 499.

30 21. The graphics computer programming language as described in claim 16 wherein one of the number of sections is section four (4) being defined as a transforms/actions section,

comprising a set of functions causing transformations or actions of a number of selected members of the set of three-dimensional objects, having a range of numerical operation codes from 500 and up.

5 22. The graphics computer programming language as described in claim 12 wherein the computing device is a game console or a desk top computer.

10 23. The graphics computer programming language as described in claim 12 wherein the general networked computer environment includes, but not limited to, the Internet.

15 24. The graphics computer programming language as described in claim 23 wherein the graphics computer programming language is downloadable for viewing by a client user with a web browser includes, but not limited to, *Internet Explorer* or *Netscape communicator*.